bearings, if they would only be good enough not to break.

So far from agreeing with brother chip's criticism, I would earnestly recommend a judicious simplification of the scantlings of Charles the Second: but I must admit that it is sufficiently ridiculous to limit the bearing of the joists to fifteen feet, as the bill seeks to do; and I quite agree that cast iron shoes and stone corbels are not the most unexceptionable expedients, nor are they much to be recommended.

It is true that the district surveyors would have considerably more labour thrown upon them, if scantlings be defined: but that may be much diminished by providing that no part of a house shall be plastered until they shall have inspected the timbering; and that every facility for their so doing shall be provided by the builder, under a penalty.

Although "Miles's boy" has said, "It's of no use talking, Mr. M——, the bill shall pass, and in its present state," with all the respect I have for that sharp young gentleman's authority, I cannot think that the legislature, having as yet heard but one side (their own officers), will adopt King Jamie's maxim, not to hear the other, lest it should puzzle them.

With your kind permission, Sir, I purpose taking up that ugly, complex question, "old party walls," in another paper, and beg to subscribe myself,

Your much obliged servant,

A Bricknat.

TOWN HALL, COLCHESTER.

TO THE EDITOR OF THE BUILDER.

Sir,—I beg to forward you the following answers to your correspondent's inquiries, published in No. 15 of The Builder relative to the competition for the New Town Hall, Colchester,

And remain, Sir, your obedient servant,

A Competitor.

First.—A limited number of designs were submitted to Mr. Tite, but the exact number I am not aware of.

Secondly.—That gentleman selected from the number submitted to him one, to which the first premium was awarded; and afterwards, not considering any of the remaining designs of the limited number submitted to him worthy of a premium, he selected from the whole number two others, to which the second and third premiums were assigned.

Thirdly.—The author of the design which obtained the first premium distinguished his drawings with a seal, bearing a crest with an elephant's head.

Fourthly.—The three premiums were paid respectively to the authors of the three designs, as selected by Mr. Tite; and the second competition was not advertised publicly, but the authors of the three premium designs were communicated with, to know whether they would furnish gratuitously, together with all necessary attendances, amended designs, embodying certain alterations, as required by the committee; each party submitted a second design, and the one selected and about to be executed is by the gentleman to whose design the third premium was awarded in the first competition.

[We have received several letters on this subject, in answer to the queries put by "One of the original Six," in our 15th number. The present selection we have made (with no disrespect to the other writers), as it appears to us to meet the allegations set out in the clearest and most succinct manner.—Ed.]

TO THE EDITOR OF THE BUILDER.

Sir,—I shall esteem it a favour if any of your numerous and talented correspondents would inform me, through the medium of your much-approved and useful publication, what would be the probable expense of pulling down the old church of St. Dunstan in the West, and building the new one which has recently been constructed. My reason for asking the question is, the heavy burthen which it has imposed on the inhabitants. The organ and the window of stained glass in the rear of the altar were gifts, and the old bells, statues, and marble tablets, and other ornaments of the old church were worked into the new edifice.

Some architects have asserted that such an edifice, allowing for the sale of the materials of the old church, which produced 1,200*l.*, might have been built for 8,000*l.*, and much better than the one built for 10,000*l.*

An Act of Parliament passed in the year 1829 for rebuilding this church, and the trustees appointed to carry its provisions into execution were empowered to purchase all the houses on the west side of Petter-lane to Clifford's Inn gateway, and thence along the north side of Fleet-street to Messrs. Praed's bank; and it was on those conditions that the inhabitants consented to the act.

The corporation of London gave to the trustees 8,000*l.* towards rebuilding the church, that the new one might be set back, to widen that part of Fleet-street; and they borrowed, at interest, the additional sum of 26,000*l.*, secured on a rate, called "*the new church building-rate.*"

The trustees purchased none of the property in Petter-lane, nor in Fleet-street, only a couple of shops in the nook closely abutting the old church, yet they immediately put the parish under an extraordinary rate (in 1829, new church building-rate) of two shillings in the pound, at which it was continued till 1836, when, the parish being rack assessed, it was reduced to one shilling and fourpence in the pound, at which it now continues.

The letting of the pews and catacombs has produced on the average 400*l.* per annum, and the sale of land to the Law Life Assurance Company, and other property has realized 3,000*l.* more.

In those various ways about 95,000*l.* have been raised for this small structure.

I should mention that there are other rates for the current expenses of the church, namely, the "*churchwardens' rate,*" the voluntary rate, and 500*l.* per annum taken from the income of some charity estates belonging to this parish, for the alleged repairs, &c. of the church.

Under these circumstances, should any of your correspondents be kind enough to favour the inhabitants with their opinion of the probable costs of the structure, they would confer on the parishioners a great obligation. I am, Sir,

Your most obedient servant,

A Ratepayer.

London, May 29, 1843.

TO THE EDITOR OF THE BUILDER.

Sir,—The following solution of the question of your correspondent, W. J. P., may perhaps not be unacceptable, and if so, is quite at your service. I am, Sir, your obedient servant,

May 26, 1843. D.

In drawing a weight up an inclined plane, it is evident that we have to overcome the friction produced by its pressure on the surface, as well as the tendency of the weight to slide down the plane. Now, the friction of course varies, *cæteris paribus*, as the pressure producing it, that is, the cosine of the angle of inclination of the plane, and the tendency of the weight to slide down, vary as the sine of the same angle. The resistance to be overcome in moving a weight upon a horizontal surface is the amount of friction and adhesion produced by its pressure upon that surface; let this amount be represented by $f w$, where w denotes the greatest weight we are able to move upon a level. We then have the following equation:

$$f x \times \cos.\ a + x \times \sin.\ a = f w,$$

in which x represents the weight required, and a the angle of inclination of the plane. Now, cos. a is the same as the horizontal length of the plane divided by the length of the inclined surface, and sine a is the same as the vertical rise divided by the same length; so that, in the present case, we have, supposing the amount of friction and adhesion to be overcome in moving a weight upon a surface to be one-tenth of the weight.

$$\frac{x}{10} \cdot \frac{40}{40.0124} + x \cdot \frac{1}{40.0124} = \frac{2240}{10} = 224 \text{ lbs.}$$

which gives $x = 1792\frac{4}{5}$lbs. = 16 cwt. $\frac{4}{5}$lb., the weight required.

The amount of friction and adhesion, here taken as equal to one-tenth of the weight, will of course vary with circumstances; being, as we experience, very much greater with a rough carriage on a soft road, than with a well-built carriage on a road of hard materials.

HOLY TRINITY CHURCH, BROMPTON.

TO THE EDITOR OF THE BUILDER.

Sir,—I had not had the pleasure of reading The Builder until it was mentioned to me by a professional friend, that, in noticing my works at Holy Trinity Church, Brompton, you had, by some mistake, attributed them to another architect. Your highly useful magazine having thus been brought to my knowledge, has afforded me much gratification in the perusal, and convinced me of its great and general utility to the profession. I feel obliged for the handsome manner in which you have corrected the error, and also to inform you that means are in progress for obtaining the requisite funds for a general improvement and remodelling of the church. I may also add, that the public are indebted for the new altar-screen and chancel window to the munificence of one of the churchwardens, who also contributed the sum of 50*l.* to the side windows. The same public-spirited gentleman has also offered to subscribe 100*l.* towards the projected alterations of the exterior, as soon as his neighbours will come forward with a corresponding liberality, to insure the necessary amount.

The design which I have prepared for improving the church provides new buttresses and ornamental parapets, with a complete remodelling of the tower, and the addition of a lofty spire. It has received the approval and sanction of the vicar and churchwardens, and also of the Bishop of London; and we have good hopes that, by the spirited efforts of Mr. Irons, assisted by his wardens and parishioners, we shall, in your words, "render the church, what a sacred edifice, raised in this vast capital to the glory of God, ought to be."

I shall feel pleasure in shewing you the design for these projected improvements.

By a mistake in your last number, you have named the church St. Mary's, instead of the Holy Trinity. I am, Sir, your obedient servant,

John Blore.

8, Michael's-place, Brompton-square,
May 25, 1843.

TO THE EDITOR OF THE BUILDER.

Sir,—Our attention has been called to a letter inserted in your number of the 13th May, in which Mr. F. A. Bernhardt refers to some work done by us at Whitecross-street Prison.

We beg to state that it was pursuant to plans submitted to the proper authorities by Mr. Coote, of Mornington House, near Clifton. Two cylinders only were erected, as they were found to obstruct the passage of the prisoners. Subsequently, these were removed, and a mode of ventilation by another application of the same principle has been accomplished. This also, which we are assured gives full satisfaction, was superintended by Mr. Coote.

We have neither leisure nor ability to conduct a public discussion on a question purely scientific; we know, indeed, that Mr. Coote claims for his lady the merit of this invention; but we would never presume to decide between Mrs. Coote and Mr. Bernhardt, both so ingenious, and so enthusiastically devoted to the pursuit of science.

We will only add, that had Mr. Bernhardt favoured us with a call, we would cheerfully have given him any explanation.

We remain, Sir, your most obedient servants,

Deane, Dray, & Deane.

Finsbury Iron Works, 86, Chiswell-street,
May 25, 1843.

Miscellanea.

Rebuilding of Hamburg.—The anniversary of the lamented fire has just passed, and although the site still presents much of that wretchedness consequent on the very great destruction of property, yet much more has been done in removing the ruins and old materials than might have been expected. New and bold lines of streets are now set out. The paving is commenced, and the new buildings in several parts are being rapidly prepared to receive their roofs, and will probably, towards the close of the ensuing summer, be fit for habitation. The government of the city has, within a few days, determined on constructing a new and improved means of sewerage in that part of the town to be rebuilt, and has voted 70,000*l.* for that purpose, intending that the whole works shall be completed in about eighteen months. It is also proposed to erect gas-works for the city, and we believe this is a matter that will be thrown open to competition of capitalists, under certain conditions, by the senate.

Monument to the late Earl of Durham.—The committee appointed for erecting a monument to the public character of the late Earl of Durham, met a few days since in Newcastle, for the purpose of deciding on the plans to be adopted, from the great number sent in from architects resident in London and other parts of the country. After a full consideration of the various plans submitted to their notice, the committee determined to recommend the adoption of a design by Messrs. J. and B. Green, architects, of Newcastle-on-Tyne. It consists of a Grecian temple of large dimensions, and is said to be admirably adapted for the situation on Pensher Hill, which has been selected for its erection. Pensher Hill is visible from the great North road, and is a tolerably central point between Newcastle, Durham, and Sunderland.

Metropolitan Improvements.—The square that is being laid out and planted on the Marquis of Westminster's Pimlico estate, called St. George's-square, is eleven hundred yards long and eighty yards wide. Each house in this square will command a fine view of the river. It is only a short mile from the new Houses of Parliament.

The Queen Dowager has given 20*l.* towards rebuilding the parish church of Radipole, Dorset.—*The Archæological Magazine.*

The new royal summer pavilion in Buckingham Palace gardens is, we are informed, to be adorned with frescoes by Stanfield, Edwin Landseer, Eastlake, and Unwins, to whom a commission has been given by Prince Albert.

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